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# **Auditor-Client Bonding and Audit Quality: Partner-Level Evidence**

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## **Auditor-Client Bonding and Audit Quality: Partner-Level Evidence**

**ABSTRACT:** In this study, we argue that an increased economic bonding may develop between an audit partner and the clients when the auditor switches to a new audit firm because the auditor's incremental payoff expected from switching to the new firm (e.g., promotion, larger share of firm profits, more perks, and more authority and peer respect) is often enhanced by the number of clients he can bring to the new firm. The auditor and the client can use audit quality as a bargaining tool to divide the incremental payoff generated from the joint auditor-client switch. We thus hypothesize that the turnover audit partners treat follower clients more favorably (by making less downward audit adjustments to pre-audit earnings or allowing greater discretionary accruals) than they treat other clients around the joint auditor-client switches. Using the data in China where engagement-specific audit partner information is available, we find evidence that supports our hypothesis under the condition that both of the signing auditors for the follower client switch to the same successor firm (or come from the same predecessor firm). Our partner-level evidence is consistent with the widespread concern that audit quality is lower when there is a greater level of auditor-client economic bonding.

**Keywords:** auditor-client bonding; audit quality; client following behavior; bargaining.

**Data Availability:** Data used in this study, except pre-audit earnings and audit adjustment, are publicly available from the sources indicated in the text.

## 1. INTRODUCTION

Auditor independence and audit quality has been under tremendous scrutiny following a series of major accounting scandals in Enron, Worldcom, and others and the debacle of Arthur Anderson, a former Big Five audit firm. The understanding of when and why auditors may compromise their independence and quality is important for both regulators and investors. As auditor independence and quality is generally unobservable (prior to costly investigations triggered by auditor litigation), researchers gain insights into this issue by identifying scenarios (e.g., in the presence of large non-audit fees or lengthy auditor tenure) in which the auditors' economic interests from clients are likely to outweigh their potential litigation costs and reputation loss from audit failures, thus leading to the lack of independence and poor audit quality. As noted in some recent studies (Reynolds and Francis 2000; Francis 2004; DeFond and Francis 2005), the economic interests and incentives of auditors are better analyzed at a micro level (i.e., the local office level or engagement partner level) than at the firm level because individual audit engagements are administered by engagement and review partners and the economic importance of clients is more salient at the micro level. In this study, we employ a set of audit partner-level data from China where (increased) economic bonding between an audit partner and the clients may arise for the audit partner who left the former audit firm and took some clients with him to the new audit firm (while the former audit firm continues to practice). We examine whether the economic bonding between the turnover audit partners and the follower clients impairs audit quality before and after their joint switches to new audit firms.

Auditor-client bond and its impact on audit quality have received increasing attention from regulators<sup>1</sup> and academics (Menon and Williams 2004; Lennox 2005; Carey and Simnett 2006; Blouin et al. 2007). However, most of these studies examine financial reporting quality *after* a close auditor-client affiliation is revealed, e.g., after a

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<sup>1</sup> For example, as noted in DeFond and Francis (2005), the Public Company Accounting Oversight Board (PCAOB) treats the review of partner compensation and the associated partner incentives as part of the newly implemented inspection program.

client employs a former partner of the incumbent auditor as its officer (Menon and Williams 2004; Lennox 2005), or after a client follows the auditor to a new audit firm in a forced audit firm switch (Blouin et al. 2007). Confounding factors other than auditor independence may apply in these settings; for example, a manager may adopt a financial reporting strategy that avoids the audit strategy with high predictability in the affiliated client-auditor scenario (Menon and Williams 2004; Lennox 2005), or a client may suffer a very high level of scrutiny in a forced audit firm switch. We argue that the compromise of auditor independence is likely to occur for the audit partner whose future economic interests heavily depend on the successful bonding with the client *before* such a bond is observed. Therefore, there is a need for research on the relation between audit quality and auditor-client bonding before the bond is revealed (as noted by Lennox 2005, 229). The lack of research on this issue is mainly due to the unavailability of partner-level data. This study fills this void by first developing a formal model that shows the economic bonding that develops around the joint client-auditor switch and its negative impact on audit quality. We then use the data in China where engagement-specific audit partner information is available to empirically test our theory that audit quality is compromised during the time around the joint client-auditor switch.

To examine the effects of the joint client-auditor switch on audit quality, we develop a formal model in which an increased economic bonding develops between an audit partner and the clients when the auditor switches to a new audit firm because the turnover auditor's incremental payoffs expected from switching to the new firm (e.g., promotion, larger share of firm profits, more perks, and more authority and peer respect) are often enhanced by the number of clients he can bring to the new firm. Our analysis shows that the auditor and the client use audit quality as a bargaining tool to divide the incremental payoff generated from the joint auditor-client switch. We find that the turnover partners lower audit quality for the (ex post) follower clients in the period during which they make the switching decisions and also in the period after the joint auditor-client switches occur.

We also find that the compromise in audit quality is more severe during the period in which the auditor makes the switching decision than after the switch under either one of the following two situations: (a) the auditor's post-turnover payoff is decreasing over the post-turnover periods, or (b) the cost of public scrutiny faced by the follower manager when her following behavior is revealed to the public is positive.

Based on analytical result, we hypothesize that the turnover auditor lowers audit quality (by making less downward audit adjustments to pre-audit earnings or allowing greater discretionary accruals) for both the pre- and post-turnover periods. We then empirically test this hypothesis. We use the *ex post* client following behavior as a proxy for successful auditor-client bonding in the years prior to the turnover, and partition the pre-turnover client portfolio of the turnover partners into a follower group and a non-follower group. We also partition the post-turnover client portfolio of the turnover partners into a follower group and the new client group. We use the audit adjustments (i.e., the difference between post-audit earnings and pre-audit earnings scaled by total assets)<sup>2</sup> as a main proxy (and discretionary accruals as an alternative proxy) for audit quality. We compare audit quality between the follower group and the non-follower group in the pre-turnover analysis, and between the follower group and the new client group in the post-turnover analysis.

It is required in China that at least (and normally) two auditors (i.e., engagement and review auditors) to sign an audit report. As the two signing auditors' economic incentives may differ for a client, there may be cooperation (or the lack of it) between the two auditors, which will impact the audit outcome. Thus, we further divide the follower client group into two sub-samples; (1) Sub-sample I consists of the follower client for

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<sup>2</sup> The audit adjustment made to pre-audit earnings represents earnings management attempted by management but stopped by the auditor, which is proprietary information obtained from the Chinese Institute of Certified Public Accountants (CICPA). Since 2001, the CICPA has required audit firms licensed to practice in the Chinese securities market to file with it the amounts of audit adjustments made during the annual audit process to each of the following items: total assets, total liabilities, owners' equity, earnings, and tax liabilities. The authors are grateful to the CICPA for granting them a special permission of using this dataset in the present project. Efforts have been made by the CICPA staff to verify with CPA firms the reliability of the data.

which both of the signing auditors switch to the same successor firm (or come from the same predecessor firm); and (2) Sub-sample II consists of the follower client for which only one of the two signing auditors switches to the same successor firm (or comes from the same predecessor firm). As the two signing auditors' economic interests and incentives are better aligned for Sub-sample I, we expect that the audit quality gap between the follower group and the control group (non-follower group or new client group) is more severe for Sub-sample I than for Sub-sample II.

Our regression results show that the turnover audit partners treat the follower clients more favorably than non-follower clients in terms of making less downward audit adjustments to pre-audit earnings (or allowing larger discretionary accruals), during pre- and post-turnover periods, only when the follower clients belong to sub-sample I, but not when the follower clients belong to sub-sample II. These results support our hypothesis that the turnover partners may compromise audit quality to induce clients to follow them to the new audit firm as their payoffs or positions in the new firm are enhanced or strengthened by the follower clients. However, the turnover auditor's incentive to lower audit quality is deterred by a second non-turnover auditor who signs the same audit report but does not share the same incentive as that of the turnover auditor. This implies that the audit firm can have effective control over audit quality by appointing for the audit task a second auditor that has a different incentive structure from that of the turnover auditor, when the economic bonding between the engagement auditor and the client is a concern.

We recognize that an endogeneity (self-selection) problem may arise in this study in the sense that auditors may choose better clients to follow them to new audit firms. However, as we divide the follower clients into two types (depending on whether or not the two signing auditors both switched audit firms as a team), our results that show audit quality difference between the two types of follower clients in the pre- and post-turnover periods are not affected by the potentially different characteristics of follower clients versus non-follower clients (i.e., self-selections).

This study contributes to the literature by providing theory and further partner-level evidence on the impact of auditor-client bonding on audit quality. Specifically, we extend recent studies (Menon and Williams 2004; Lennox 2005; Blouin et al. 2007) by showing that audit quality can be impaired *before* a close partner-client interdependence becomes observable, which is consistent with the widespread regulatory and professional concerns about the negative effect of unobservable auditor-client bonding on auditor independence (e.g., Independence Standards Board (ISB) 1999; Securities Exchange Commission 2000; International Federation of Accountants (IFAC) 2007). Moreover, prior literature (e.g., Bradshaw et al. 2001) questions whether auditors lack the sophistication to respond to earnings management or whether they collude with clients to temporarily inflate earnings. We show that audit partners do have the sophistication to treat clients differentially based on different levels of auditor-client bonding. Finally, our results suggest that the appointment of two auditors who have different economic incentives for an audit task may provide some quality control for the audit firm.

Section 2 presents a formal model of joint auditor-client switch and audit quality, and develops hypotheses. Section 3 describes the design for empirical tests. Section 4 describes the sample. Section 5 presents empirical results. Section 6 concludes.

## ***2. A model of client following (joint auditor-client switch), economic bonding, and audit quality***

Clients choose to follow their audit partners to switch to a new audit firm not only in a forced setting where the former audit firm is terminated or goes bankrupt (Reed et al. 2000, 195; Blouin et al. 2007), but also in a voluntary setting where the former audit firm continues to practice. In a survey for the reasons for audit firm changes during the 1992-1996 period, Whisenant (2003) documents that an audit partner who is leaving the audit firm often persuades clients to also switch to the new firm. Managers identify this behavior in the statement “*engagement partner withdrew from firm and company*



*followed accountant to a new firm”*.<sup>3</sup>

An increased economic bonding may develop between the auditor and the client in the client following (joint auditor-client switch) scenario. The auditor voluntarily switches to another audit firm to pursue better payoffs in the new firm than in the old firm. He may obtain a more prestigious position in the new firm (e.g., he is promoted from a junior partner to a senior partner) and thus is entitled to a larger share of the firm’s profits. Moreover, this more prestigious position can bring to the auditor more perks, more respect from peers, more authority and better working environment, better labor market opportunities, and etc. The better payoffs (or incremental benefits) that the auditor expects from switching to the new firm (including the above direct monetary payoff and various indirect benefits) are often enhanced by the number of clients the auditor can bring to the new firm, implying a positive relationship between the auditor’s payoff from the switch and the number of follower clients. To further understand this positive relationship, note that the partner’s bargaining power for a more prestigious position in the new firm increases with the number of follower clients, and that the auditor’s (increased) share of the firm profits also includes the profits generated from the follower clients.

The increased economic bonding between the auditor and the follower client due to the auditor switch can cause the auditor to compromise independence and provide audits of poor quality. To see this, we can view the incremental benefits that the auditor expects from the follower client in the post-turnover periods as a “pie”, reflecting the increased economic bonding between the auditor and the follower client. How to divide the pie is determined by a bargaining game between the auditor and the follower client, and the bargaining tool is the audit quality. Note that both the total size of the pie (i.e., the sum of

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<sup>3</sup> Descriptive statistics in Whisenant (2003, Panel A of Table 2) show 61 such explicit client following observations (or 5.37%) out of 1135 client-initiated audit firm changes during the 1992-1996 period. Given that there are still 40.8% of 3540 audit firm changes during the period where the managers made no response to inquiry from *Auditor Trak* on reasons for the audit firm changes, and that the managers are increasingly unwilling to respond over time (see Whisenant 2003, Panel A of Table 1), one can reasonably anticipate a larger number of client following cases in the U.S. capital market.

the auditor's expected net benefit from the switch and the manager's private benefit from any reduction in audit quality) and the individual players' shares of the pie (i.e., the auditor's net benefit and the manager's private benefit) will change with the negotiated audit quality. More specifically, when negotiating the audit quality (e.g., audit adjustments to pre-audit earnings), there is a tradeoff between the auditor's and the manager's share of the pie over the reduction in audit quality. On the one hand, the auditor's payoff decreases with the reduction of audit quality because he will bear more expected litigation costs when audit quality decreases. On the other hand, the manager's share of the pie increases with the reduction of audit quality because she obtains personal benefits from any undetected or unrevealed financial misstatements. Normally, we can find a (nonsymmetric)<sup>4</sup> Nash bargaining solution in terms of how much audit quality is compromised when the tradeoff between the auditor's and the manager's payoffs over the reduction in audit quality is such that the product of these payoffs is maximized (see Myerson 1991 for the description of the nonsymmetric Nash bargaining solution).<sup>5</sup>

In sum, a switch by the auditor and the client's following behavior create an economic bonding and poses a threat to auditor independence. In the periods around the switch, the auditor and the client may bargain over the reduction in audit quality to divide the benefits that the auditor expects from the follower client over the post-turnover periods.

We now give a more formal characterization of the model and derive the equilibrium audit quality in the period prior to and after the joint auditor-client switch. We then develop empirical hypotheses based on the analytical results.

## ***2.1 Model setup***

Consider a four-period model in which the auditor performs audit for each of his

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<sup>4</sup>The bargaining solution is nonsymmetric since the two players have different payoff structures and different disagreement payoffs in this bargaining game.

<sup>5</sup>This analysis is not qualitatively affected by the fact that a client may pay start-up cost when it does not follow the switching auditor to the new firm as long as the start-up cost is small relative to the auditor's expected benefits from the follower client.

clients at the end of each period. The client-auditor relationship starts at the beginning of  $t = 0$ . During  $t = 0$ , the auditor does not anticipate any audit firm switch in the future. The auditor decides to switch to a new audit firm and negotiates a compensation contract with the new firm in period  $t = 1$ . The new compensation contract will help the auditor to obtain better payoffs than in the old firm. As mentioned before, the incremental payoffs include both pecuniary and non-pecuniary benefits, which increase with the number of clients he can bring to the new firm. The incremental payoff from a follower client will be realized in the two periods following the auditor's move to the new firm. Specifically, the incremental payoff is  $w_2$  for  $t = 2$  and  $w_3$  for  $t = 3$ . The client-auditor relationship ends at the end of  $t = 3$ . The timeline is shown in Figure 1 for easy reference.

Let  $q \in (0, 1)$  be the audit quality. The auditor's expected legal liability associated with an audit is  $l(1 - q)$  where  $l > 0$ , which is decreasing in audit quality. The auditor's effort cost of performing the audit is  $kq^2$  where  $k > 0$ , which is increasing and convex in audit quality. The audit quality imposes a personal cost on the manager, represented by  $zq$  where  $z \geq 0$ , which is increasing in audit quality. As the manager prefers that any financial misstatements are not discovered by the auditor, we can interpret the personal cost of audit quality that is born by the auditor as follows. The higher the audit quality, the more likely any financial misstatements are detected, and the worse off the manager is. In addition, we let  $x \geq 0$  denote the public scrutiny cost that is born by the manager of a follower company after the following behavior is revealed to the public. We assume that the clients are identical except that they may differ in  $z$  and  $x$ .

## ***2.2 Audit quality in the period prior to the auditor's decision to switch to a new firm, $t = 0$***

In  $t = 0$ , without anticipating his switching decision in the next period, the auditor chooses a level of audit quality for each client to minimize the total cost of the audit, which is the sum of the expected legal liability cost and the effort cost:

$$\underset{q_0}{\text{Minimize}} \quad l(1 - q_0) + kq_0^2 \quad (1)$$

The solution to (1) determines the choice of audit quality:  $q_0^* = \frac{l}{2k}$ .

Assume that the audit fee for the period  $t = 0$  is such that the auditor earns a reservation wage which, without loss of generality, is normalized to zero. Hence, the audit fee, denoted by  $f$ , is determined by  $f - l(1 - q_0^*) - kq_0^{*2} = 0$ , which implies that the audit fee  $f = l(1 - q_0^*) + kq_0^{*2}$ .

### ***2.3 Audit quality in the period prior to and the periods after the auditor switch, $t=1, 2, 3$***

The audit quality for a non-follower client provided by any auditor remains the same as  $q_0^*$  for any of the periods  $t = 1, 2, 3$ . We consider the auditor quality choice for a follower client. Assume that the audit fee is sticky and does not change over the four periods for a follower client. In other words, the audit committee of a follower client company is not effective to negotiate a new audit fee with the auditor during periods  $t = 1, 2, 3$  to incorporate the impact of the auditor's switch into audit fee. In the following, we use backward deduction to derive the equilibrium audit quality for a follower client for  $t = 1, 2, 3$ .

#### ***The last period of the game, $t = 3$***

As this is the last period of the game, the auditor has no incentive to compromise independence or audit quality, and he chooses audit quality to minimize the total audit cost. Thus, the auditor's choice of audit quality is the same as in  $t = 0$ , i.e.,  $q_3^* = q_0^*$ .

#### ***The first period after the auditor switch, $t = 2$***

Anticipating an abnormal payoff,  $w_3$ , in the next period, the auditor has the incentive to retain the client for the next period using the choice of quality for this period. That is, the auditor is willing to choose a lower quality in  $t = 2$  for the client to sign an audit

contract for  $t = 3$ .

If the auditor offers a lower audit quality  $q_2 < q_0^*$ , then the personal benefit (i.e., the cost savings) for the manager of staying with the auditor for the next period is  $z(q_0^* - q_2)$ . The payoff of this strategy for the auditor is  $w_3 + f - l(1 - q_2) - kq_2^2$ . The manager will retain the auditor if  $z(q_0^* - q_2) > 0$ , while the auditor is willing to compromise quality if the payoff of this strategy is positive, i.e., if  $w_3 + f - l(1 - q_2) - kq_2^2 > 0$ . We employ the Nash Bargaining Solution, and thus the negotiated audit quality maximizes the Nash Product, which is a product of the manager's private benefit and the auditor's benefit from a successful client-auditor bonding in the next period:

$$\underset{q_2}{\text{Maximize}} \quad z(q_0^* - q_2)[w_3 + f - l(1 - q_2) - kq_2^2]$$

When the solution is interior, the equilibrium audit quality is  $q_2^* = \frac{l - \frac{2}{3}\sqrt{3w_3k}}{2k}$ , which is smaller than  $q_0^*$ ; that is, the audit quality is compromised. Note that the compromise of audit quality becomes more severe when the auditor's incremental payoff in the next period,  $w_3$ , becomes greater.

### ***The period prior to the auditor switch, $t = 1$***

As the auditor expects to earn abnormal payoffs based on the number of follower clients after he switches to the new firm, he has the incentive to induce clients to follow him to the new firm by compromising audit quality. That is, the auditor is willing to choose a lower quality in  $t = 1$  to induce a client to sign an audit contract for  $t = 2$ .

If the auditor offers a lower audit quality  $q_1 < q_0^*$ , then the manager's personal benefit from following the auditor to the new firm is  $z(2q_0^* - q_1 - q_2^*) - x$ , where  $x$  is the

public scrutiny cost that is born by the manager of a follower company. The payoff of this strategy for the auditor is  $w_2 + w_3 + f - l(1 - q_1) - kq_1^2 + f - l(1 - q_2^*) - kq_2^*$ . The manager will follow the auditor if  $z(2q_0^* - q_2^* - q_3) - x > 0$ , while the auditor is willing to compromise audit quality if the payoff of this strategy is positive, i.e., if  $w_2 + w_3 + f - l(1 - q_1) - kq_1^2 + f - l(1 - q_2^*) - kq_2^* > 0$ .

We employ the Nash Bargaining Solution, and thus the negotiated audit quality maximizes the Nash Product, which is a product of the manager's private benefit and the auditor's benefit from a successful client-auditor bonding in the future periods.

$$\underset{q_1}{\text{Maximize}} \quad [z(2q_0^* - q_1 - q_2^*) - x][w_2 + w_3 + f - l(1 - q_1) - kq_1^2 + f - l(1 - q_2^*) - kq_2^*]$$

When the solution is interior, the equilibrium audit quality is

$$q_1^* = \frac{2z\sqrt{3w_3k} + 9zl - 6xk - 2\sqrt{9x^2k^2 + 21z^2w_3k + 27z^2w_2k - 6xkz\sqrt{3w_3k}}}{18zk}.$$

Note that not all managers follow the auditor to the new firm. The manager will not follow the auditor if the public scrutiny cost,  $x$ , is higher than the personal benefit from the reduced audit quality, i.e., if  $x > z(2q_0^* - q_1^* - q_2^*)$ , where  $z$  and  $x$  have firm specific values.

## 2.4 Analytical findings and empirical hypotheses

Our analysis of the model yields three observations.

**Observation 1:** *The choices of audit quality during the period prior to the auditor switch and the period after the auditor switch (i.e.,  $t = 1$  and  $t = 2$ ) are lower than that for the non-follower client, that is,  $q_1^* < q_0^*$  and  $q_2^* < q_0^*$ .*

Proof: All proofs are shown in the Appendix.

Observation 1 shows that the audit quality is compromised for a follower client for both the period during which the auditor decides to switch to a new firm and the period after the auditor switch. Specifically, the audit quality prior to the auditor switch is reduced to induce the manager to follow the auditor to the new audit firm.

**Observation 2:** *If the abnormal payoff that the auditor obtains from a follower client spreads evenly across the post-switch periods (i.e.,  $w_2 = w_3$ ) and that the scrutiny cost that is born by the follower manager is zero (i.e.,  $x = 0$ ), then the audit quality during the period prior to and that after the auditor switch is the same, i.e.,  $q_1^* = q_2^*$ ).*

Observation 2 means that the reduction in audit quality is the same during and after the joint auditor-client switch if the incremental payoff the auditor obtains from the follower client spreads evenly over the periods after the switch *and* that the cost of public scrutiny faced by the follower manager is zero.

**Observation 3:**

(a) *If the abnormal payoff that the auditor obtains from a follower client is decreasing across the post-switch periods (i.e.,  $w_2 > w_3$ ), then the audit quality during the period prior to the auditor switch is lower than that after the switch, i.e.,  $q_1^* < q_2^*$ .*

(b) *If the abnormal payoff that the auditor obtains from a follower client spreads evenly across the post-switch periods (i.e.,  $w_2 = w_3$ ) and that the scrutiny cost that is born by the follower manager is positive (i.e.,  $x > 0$ ), then the audit quality during*

*the period prior to the auditor switch is lower than that after the auditor switch, i.e.,*  
 $q_1^* < q_2^*$ .

Observation 3 shows that the reduction in audit quality is more severe during the period in which the auditor makes the switching decision than after the switch under either one of the following two situations. First, the incremental payoff that the auditor obtains from the switch is decreasing in the periods after the switch. The intuition behind this result is that, when the auditor's payoff that is at stake is greater, the manager is in a better position to negotiate a greater reduction in audit quality. Second, even if the payoff that the auditor obtains from the switch spreads evenly over the post-switch periods, the compromise of auditor quality is more severe prior to the switch than after if the cost of public scrutiny faced by the follower manager is positive. The intuition behind this result is that, when the manager's personal cost of following the auditor is higher, the auditor has to offer a greater reduction in audit quality to compensate for this cost.

The above observations help us develop empirically testable hypotheses. Based on Observation 1, we form two hypotheses:

*H1: Prior to the auditor turnover, the turnover audit partners are more likely to lower audit quality for the clients that will later follow them to a new audit firm (ex post follower clients) than for their clients that will not follow them to the new firm (ex post non-follower clients).*

*H2: In the post-turnover period, the turnover audit partners are more likely to lower audit quality for the clients that followed them to the new audit firm than for the new clients that he audits in the new firm.*

As shown in Observations 2 and 3, the auditor's incentive to compromise independence for the follower client is more severe in the period prior to the switch than



after the switch if one of the two conditions specified in Observation 3(a) and 3(b) holds. These two conditions are likely to hold in reality. First, as time passes, the auditor's benefits from the follower client may become less or go away when the client company's audit committee negotiates a more informative audit fee contract that incorporates the impact of auditor switch into audit fee. Second, the follower managers may face a high degree of scrutiny from regulators and market participants after their joint client-auditor switch is exposed. On the other hand, if neither of the above two conditions holds, then we would observe the same degree of audit quality reduction in the period prior to the client-auditor turnover and in the period after the turnover. Based on Observations 2 and 3, we form Hypothesis 3:

*H3: For the follower clients, the reduction in audit quality during the period prior to the auditor switch is greater than that after the auditor switch, i.e.,  $q_0^* - q_1^* > q_0^* - q_2^*$ , if the auditor's payoff from the follower client is decreasing over the post-turnover periods or if the manager faces a positive cost of public scrutiny when the joint client-auditor switch is revealed to the public.*

### **3. RESEARCH DESIGN**

#### ***3.1 Research opportunity using Chinese data***

As the engagement partner information is not publicly available in most jurisdictions including the U.S., we test our hypotheses by using the data from the Chinese capital market, where information on both the audit partners and the follower clients is available. In China, at least (and normally) two CPAs (Chinese certified public accountants) are required to sign their names on the audit report for each publicly listed company. The goal of this requirement is to reinforce the linkage between the legal liabilities and the individual auditors who performed and reviewed the audit. One of the two signing

auditors serves as the auditor in charge of fieldwork, and the other serves as the reviewer of the engagement. The two signing auditors assume the same legal and regulatory liabilities (unless one can prove the contrary).

Companies that change audit firms are required to make a special announcement and get approval from the board of directors as well as in the general shareholder meeting. However, companies normally do not provide information on who (the auditor or the company) initiates the audit firm switch or the reasons underlying the switch. Occasionally, a client may disclose that it follows the former auditor to the new audit firm. For example, a special announcement by the Board of Directors of Bao Ding Swan Co., Ltd. (stock code: 000687) states:

Due to the audit personnel change in the Company's auditor Hebei Hua-An CPAs Firm, the Board of Directors decided to engage Zhonglianxin CPAs Firm to serve as the new auditor in order to ensure the continuity of the audit work for the Company. This decision is to be approved in the next Shareholders Meeting (November 22, 2000; *China Securities Journal*).

Another example is the announcement made by Chongqing Jianshe Motorcycle Co., Ltd. (stock code 200054) regarding the joint auditor-client switch:

Since the certified public accountant(s) in charge of the Company's audit engagement changed to a new firm Shenzhen Nanfang Minhe CPAs Firm, the Company decided to no longer engage Zhongtian Huazheng CPAs Firm beginning from May 1, 2003, and engaged Shenzhen Nanfang Minhe CPAs Firm to serve as the new auditor (August 11, 2003; *Securities Times*).

The client following behavior and the possible impairment of auditor independence was also a concern to regulators when they instituted the policy of mandatory audit partner rotation in China in 2003. For example, the China Securities Regulatory Commission (CSRC) made the following remarks on October 31, 2003:

Some listed companies announce an audit firm switch. But if carefully looking into

it, one will find that the certified public accountant in charge of the engagement switched to a new audit firm and the client followed. Thus only the audit firm changed, but the signing auditor remained. The phenomenon obviously does harm to the independence of individual auditors.<sup>6</sup>

The Chinese data on joint auditor-client switches allow us to address the concerns of the regulators and market participants regarding the association between audit quality and the voluntary joint switches. We also obtain a set of proprietary data on audit adjustments to pre-audit earnings (i.e., net income before income tax) from the Chinese Institute of Certified Public Accountants (CICPA). The CICPA has required audit firms to file with the CICPA both pre-audit and post-audit earnings for each of their listed clients since 2001. The adjusted amounts to pre-audit earnings represent how strict auditors are in curbing client's earnings management or fraud, which provide us with a more direct and better measure of audit quality than other indirect measures such as discretionary accruals.

### **3.2 Audit quality proxy**

Our hypotheses are concerned with whether the turnover audit partners lower audit quality for the follower clients than for the non-follower (or new) clients prior to and after the joint auditor-client switches. To empirically test these hypotheses, we use two proxies separately for audit quality: audit adjustments and discretionary accruals. Our main proxy for audit quality is audit adjustment made by the auditor, which is defined as (post-audit earnings – pre-audit earnings)/total assets. As mentioned in the previous section, the information on pre-audit earnings is obtained from the CICPA. Consistent with findings in prior literature (e.g. Bell and Knechel 1994; Kinney and McDaniel 1989) that the majority of misreporting is income increasing misstatements, the descriptive statistics in a CICPA research report (2007) based on this proprietary dataset suggest that listed Chinese

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<sup>6</sup> See *Q&As regarding the Regulation of Mandatory Signing-Auditor Rotation* (CSRC 2003). This paragraph is part of the answer to the question “What is the significance of rotating the signing auditor who leads an audit engagement”.

companies tend to overstate earnings, and that CPA firms on average made ten percent downward adjustments to pre-audit earnings for their clients during 2001-2005. Thus, we can view the magnitude of downward adjustments to pre-audit earnings as a proxy for audit quality.

Discretionary accruals have been extensively used as a proxy for audit quality/independence in prior literature (e.g., Johnson et al. 2002; Myers et al. 2003; Menon and Williams 2004; Blouin et al. 2007). To be consistent with prior studies, we also use discretionary accruals as an alternative measure of audit quality. Similar to Blouin et al. (2007), we estimate performance adjusted modified-Jones discretionary accruals as suggested by Kothari et al. (2005), which takes two steps. First, drawing on the earnings management literature (DeFond and Jiambalvo 1994; Dechow et al. 1995; Haw et al. 2005; Caramanis and Lennox 2008), we use a cross-sectional version of the modified Jones (1991) model to estimate discretionary accruals:

$$TACC_{it}/TA_{it-1} = \alpha_0 + \alpha_1(1/TA_{it-1}) + \alpha_2[(\Delta REV_{it} - \Delta RECV_{it})/TA_{it-1}] + \alpha_3(PPE_{it}/TA_{it-1}) + \varepsilon_{it} \quad (1)$$

where

- $TACC_t$  = total accruals in year t, = (income from main operations – cash flow from operations);
- $\Delta REV_t$  = change in total revenues between year t and year t-1;
- $\Delta RECV_t$  = change in receivables between year t and year t-1;
- $PPE_t$  = net value of property, plant, and equipment at the end of year t;
- $TA_{t-1}$  = total assets at the end of year t-1;
- $\varepsilon$  = error term.

We estimate Model (1) cross-sectionally in each year for each one-digit CSRC industry classification (except for each two-digit CSRC manufacturing sub-industry) with at least eight observations, using all companies that have the required data available from the China Stock Market and Accounting Research (CSMAR) database. Following Kothari et al. (2005), we include an industry-year intercept ( $\alpha_0$ ) to mitigate heteroskedasticity and omitted scale effects. Modified-Jones discretionary accruals are defined as the error term

from the above regression. Second, we adjust the modified-Jones discretionary accruals by the prior-year median industry-*ROA* decile discretionary accruals, where *ROA* is income from main operations divided by beginning total assets.

### 3.3 Pre-turnover analysis

To test H1, we use the *ex post* following status to partition pre-turnover client-year observations into two groups, both of which are audited by the turnover audit partners but have different levels of economic bonding with the auditors; that is, the follower clients who will follow the turnover auditor to new audit firms in the future versus the non-follower clients who do not follow the turnover auditors. We examine whether the audit partners treat the follower group more favorably (i.e., lower audit quality) than the non-follower group by estimating the following two regressions:

$$\begin{aligned} AUDADJ = & b_0 + b_1FOLLOW + b_2LTA + b_3LEV + b_4RECV + b_5INV \\ & + b_6BEFADJ + b_7PREMOD + b_8BIG4 + b_9AGE \\ & + year\ dummies + industry\ dummies + \varepsilon \end{aligned} \quad (2a)$$

$$\begin{aligned} DA = & b_0 + b_1FOLLOW + b_2LTA + b_3CFO + b_4BIG4 + b_5Age \\ & + b_6INDGROW + year\ dummies + industry\ dummies + \varepsilon \end{aligned} \quad (3a)$$

In both models (2a) and (3a), the test variable is *FOLLOW*, which is an indicator variable coded 1 for *ex post* follower clients and zero for *ex post* non-followers. In model (2a), the dependent variable is audit quality measured by *AUDADJ*, which is defined as (post-audit earnings – pre-audit earnings) / total assets. Based on prior literature on financial misreporting and audit detection,<sup>7</sup> we include in model (2a) such control variables as client size (*LTA* = natural log of total assets), financial leverage (*LEV* = total liabilities /total assets), receivables to total assets ratio (*RECV*),<sup>8</sup> inventory to total assets

<sup>7</sup> See Eilifsen and Messier (2000) for a literature review.

<sup>8</sup> In addition to accounts receivable, we also include “Other Receivables” to calculate the ratio. There is

ratio (*INV*), auditor type (*BIG4*), listing age (*AGE*), year dummies, and industry dummies. In addition, we include *BEFADJ* (= pre-audit earnings / total assets) in the model to control for the variation in the level of pre-audit earnings. We also include *PREMOD* (an indicator variable coded 1 if the client received a modified audit opinion in the previous year and 0 otherwise) to control for the prior-year audit opinion type, as professional standards generally suggest that an auditor should consider a prior-year modified opinion<sup>9</sup> when making the current-period audit adjustments.

In model (3a), the dependent variable is the performance adjusted modified-Jones discretionary accruals (*DA*) as an alternative proxy for audit quality. As in prior studies (Myers et al. 2003; Blouin et al. 2007), we include such control variables as client size (*LTA*), cash flow from operating activities (*CFO*), listing age (*AGE*), auditor type (*BIG4*), industry growth (*INDGROW*), year dummies, and industry dummies. Although prior studies generally find a negative association between operating cash flow and discretionary accruals, and between the Big 4 auditor and discretionary accruals, there are no consistent findings with respect to other control variables.

According to H1, we expect a positive coefficient on *FOLLOW* in Models (2a) and (3a), meaning that the downward audit adjustment is less (i.e., *AUDADJ* is less negative) and the discretionary accruals are larger for the follower clients, compared with the non-follower clients.

To test the relationship between audit quality and the different levels of economic bonding formed between turnover auditors and the follower clients, we further divide the follower clients into two sub-samples: Sub-sample I consists of the *ex post* follower client

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often a very large figure for “Other Receivables” on the balance sheet of a Chinese listed firm because the controlling shareholder tends to appropriate cash from the listed company. The inclusion of “Other Receivables” can provide a more complete picture of the level of financial risk faced by Chinese listed companies.

<sup>9</sup> For example, as IFAC (2007, 457) notes, if the entity’s prior period auditor’s report was modified, the auditor should consider the effect thereof on the current period’s financial statements.

for which both of the two signing auditors later switch to the same successor firm, and Sub-sample II consists of the *ex post* follower client for which only one of the two signing auditors later switches to the successor firm. The bonding for Sub-sample I is stronger than for Sub-sample II because the two signing auditors' incentives are more aligned for Sub-sample I. We thus estimate the following two regressions:

$$\begin{aligned} AUDADJ = & b_0 + b_{11}FOLLOW_{both} + b_{12}FOLLOW_{semi} + b_2LTA + b_3LEV + b_4RECV \\ & + b_5INV + b_6BEFADJ + b_7PREMOD + b_8BIG4 + b_9AGE \\ & + year\ dummies + industry\ dummies + \varepsilon \end{aligned} \quad (2b)$$

$$\begin{aligned} DA = & b_0 + b_{11}FOLLOW_{both} + b_{12}FOLLOW_{semi} + b_2LTA + b_3CFO + b_4BIG4 \\ & + b_5Age + b_6INDGROW + year\ dummies + industry\ dummies + \varepsilon \end{aligned} \quad (3b)$$

where  $FOLLOW_{both}$  is an indicator variable coded 1 for the *ex post* follower client in Sub-sample I, and zero otherwise;  $FOLLOW_{semi}$  is an indicator variable coded 1 for the *ex post* follower client in Sub-sample II, and zero otherwise. We expect that the coefficient on  $FOLLOW_{both}$  is significantly positive and is larger than the coefficient on  $FOLLOW_{semi}$ .

### 3.4 Post-turnover analysis

To test H2, we partition the post-turnover client-year observations into two groups, both of which are audited by the turnover audit partners but have different levels of economic bonding with their auditors; that is, the follower clients who followed the former partners to new audit firms versus the new clients which are assigned to these partners by the new firms. We examine whether the audit partners treat the follower group more favorably (i.e., lower audit quality) than they treat the new client group by estimating the following two regressions:

$$\begin{aligned} AUDADJ = & b_0 + b_1FOLLOW + b_2LTA + b_3LEV + b_4RECV + b_5INV + b_6BEFADJ \\ & + b_7PREMOD + b_8AGE + year\ dummies + industry\ dummies + \varepsilon \end{aligned} \quad (4a)$$

$$DA = b_0 + b_1FOLLOW + b_2LTA + b_3CFO + b_4Age + b_5INDGROW + year\ dummies + industry\ dummies + \varepsilon \quad (5a)$$

There are no Big 4 audit firm observations within the post-turnover client portfolio, thus we drop the indicator variable *BIG4*. All other variables are the same as previously defined.

Similar to the pre-turnover analysis, we also divide the follower clients into two sub-samples: Sub-sample I consists of the follower client for which both of the two signing auditors are the turnover partners from the same predecessor audit firm; and Sub-sample II consists of the follower client for which only one of the two signing auditors is the turnover partner from the predecessor audit firm. We then estimate the following two regressions:

$$AUDADJ = b_0 + b_{11}FOLLOW_{both} + b_{12}FOLLOW_{semi} + b_2LTA + b_3LEV + b_4RECV + b_5INV + b_6BEFADJ + b_7PREMOD + b_8AGE + year\ dummies + industry\ dummies + \varepsilon \quad (4b)$$

$$DA = b_0 + b_{11}FOLLOW_{both} + b_{12}FOLLOW_{semi} + b_2LTA + b_3CFO + b_4Age + b_5INDGROW + year\ dummies + industry\ dummies + \varepsilon \quad (5b)$$

The bonding for the Sub-sample I is stronger than for Sub-sample II because the two signing auditors' incentives are more aligned for the Sub-sample I. Hence, we expect that the coefficient on *FOLLOW<sub>both</sub>* is significantly positive and is larger than the coefficient on *FOLLOW<sub>semi</sub>*.

#### 4. SAMPLE SELECTION

We identify all voluntary audit firm switches during 1995 to 2005 from the CSMAR database,<sup>10</sup> because if a turnover audit partner takes a client with him to the new firm,

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<sup>10</sup> Our data starts from 1995 to limit the possible impact of the irregularity of audit practices because the



then an audit firm switch occurs for the client. We then check whether the same audit partner signs his name on the audit report for a switching client both before and after the switch. If this is true, then the observation is classified as a joint auditor-client switch (or a follower client). To perform pre- and post-turnover analyses, it is crucial to determine the exact timing of the auditor turnover. The CSRC established a web-version of Regulatory System of Public Accounting Firms and Assets Appraisal Agencies where basic information such as an auditor's working experience (including the auditor's switching between audit firms) is available for most auditors currently employed by licensed audit firms. This public system is particularly useful to confirm the timing of an audit partner leaving an old audit firm and joining a new firm. The auditor-firm alignment data are matched with client-firm alignment data to confirm whether a joint auditor-client switch occurs.

We identify 74 joint-switch observations (i.e., the follower client observations) out of 664 audit firm switches. 34 audit partners are the key personnel driving these 74 client following events.<sup>11</sup> A total of 41 audit firms were involved during the period 1995-2005,<sup>12</sup> 25 and 23 of which acted as predecessor and successor audit firms, respectively.<sup>13</sup> These audit partners are active auditors, as they signed nearly 1000 audit reports for listed companies during the 1995-2005 period, about one tenth of all audit reports issued during this period.

For the 74 follower clients, most client-year observations before and after the switch are signed by the turnover audit partners, while some client-year observations are not

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Chinese auditing standards were not instituted until January 1, 1996 (DeFond et al. 2000; Haw et al. 2003). We also exclude mandatory audit firm changes from our sample. These mandatory audit firm changes include the cessation of former audit firms (similar to the Arthur Andersen scenario in U.S.) and the designation of another audit firm by a Chinese regulator such as the State-owned Assets Supervision and Administration Commission of the State Council (SASAC).

<sup>11</sup> The fiscal-year distribution of audit partner turnover events is as follows: 1 in 1996, 4 in 1998, 3 in 1999, 5 in 2000, 7 in 2001, 4 in 2002, 4 in 2003, 4 in 2004, and 2 in 2005.

<sup>12</sup> Based on statistics by the CSRC (2001), there were about 88, 90, and 94 licensed audit firms in Chinese capital market in 1997, 1998, and 1999, respectively. After some audit firm mergers in 2000 and regulatory shutdowns in 2001, there were about 70 licensed audit firms in the market during 2001 to 2005.

<sup>13</sup> An audit firm can be involved as a predecessor firm more than once if more than one audit partners leave for various successor firms either in the same year or in different years.

signed by any of them. We thus exclude from the sample the yearly observations that are not signed by any turnover audit partner. We next searched the CSMAR database by using the turnover partners' names to identify all other clients that are audited and signed by them. As shown in Column A of Table 1, we identify a complete client portfolio of the turnover audit partners during 1995-2005 with 198 (356) pre-turnover follower (non-follower) client-year observations, and 185 (254) post-turnover follower (new) client-year observations.

Columns B and C of Table 1 present the samples used for audit adjustment analysis and discretionary accrual analysis, respectively. For Column B, we include only observations that had audit adjustment data and reported positive pre-audit earnings (including 126 pre-turnover and 277 post-turnover observations).<sup>14</sup> For Column C, we include only observations that had sufficient data to compute discretionary accruals and reported positive pre-audit earnings (including 315 pre-turnover and 346 post-turnover observations).

[INSERT TABLE 1 HERE]

## 5. RESULTS

### *5.1 Audit quality difference between follower clients and other clients in the pre-turnover period*

Table 2 presents the regression results for Models (2a, 2b) using audit adjustments as a proxy for audit quality. Regression results in Panel B, Column 2, indicate that the coefficient on  $FOLLOW_{both}$  is significantly positive ( $p < 0.1$ ) after controlling for other client characteristics, which suggests that the follower clients for which both of the signing auditors later switch to the same successor firm experience less downward audit adjustments to earnings compared with the non-follower clients in the pre-turnover period. In addition, we do not find significant coefficient on  $FOLLOW$  in Column 1 or  $FOLLOW_{semi}$  in Column 2, which suggests that the non-turnover auditor may deter the turnover auditor from yielding to the manager's demand for less downward audit

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<sup>14</sup> We exclude observations that had negative pre-audit earnings to avoid the potential confounding effect of a different financial reporting incentive.

adjustment. These results support H1 under the condition that both the two signing auditors switch to the new firm as a team and thus have aligned economic incentives.

Regarding the results for control variables in Table 2, note that *BEFADJ* is significantly and negatively associated with *AUDADJ* ( $p < 0.1$ ), suggesting that the greater the magnitude of pre-audit earnings the client reports, the more downward audit adjustments are made. Also note that clients with greater receivables (*RECV*) are subject to more downward adjustments to pre-audit earnings ( $p < 0.1$ ), while the coefficient on inventory to assets ratio (*INV*) is insignificant. This is consistent with prior earnings that accounting receivables are more subject to overstatements, while inventory tends to be balanced between over- and understatements (Eilifsen and Messier 2000).

[INSERT TABLE 2 HERE]

## ***5.2 Audit quality difference between follower clients and other clients in the post-turnover period***

Table 3, Panel B, presents the regression results for Models (4a, 4b) using audit adjustments as a proxy for audit quality. Column 1 shows that the coefficient on *FOLLOW* is 0.006 and significant ( $p = 0.022$ ), but this is driven by the sub-sample represented by *FOLLOW<sub>both</sub>*. To see this, note in Column 2 that the coefficient on *FOLLOW<sub>both</sub>* is 0.009 and significant ( $p = 0.042$ ), but the coefficient on *FOLLOW<sub>semi</sub>* is not significant. Taken together, consistent with the pre-turnover results, these post-turnover results suggest that the turnover audit partners treat follower clients more favorably than they treat new clients in terms of less downward audit adjustments to pre-audit earnings *only when* both of the signing auditors are turnover auditors from the same predecessor firm. The results also suggest that the turnover auditor's incentive to compromise audit quality is deterred by the newly assigned second auditor by the new audit firm. Overall, our results support H2 under the condition that both of the signing auditors come from the same predecessor audit firm and thus have aligned economic incentives.

In addition, note that the significant coefficient on *FOLLOW<sub>both</sub>* is larger in the pre-turnover period than in the post-turnover period ( $0.02 > 0.009$ ). This evidence is consistent with H3 that the auditor's payoffs decrease over the post-turnover periods or that the follower manager faces positive public scrutiny cost when the following behavior

is revealed to the public, and thus the audit quality impairment is more severe in the period during which the auditor makes the switching decision than after the joint auditor-client switch occurs.

[INSERT TABLE 3 HERE]

### ***5.3 Results based on discretionary accruals as a proxy for audit quality***

The regression results for Models (3a, 3b) are presented in Table 4 for the pre-turnover period, and those for Models (5a, 5b) are presented in Table 5 for the post-turnover period, using performance adjusted discretionary accruals as an alternative measure of audit quality. The results on our test variables are consistent with the results in Sections 5.1 and 5.2. Specifically, the coefficient on  $FOLLOW_{both}$  is significantly and positively associated with  $DA$  in the pre-turnover and post-turnover periods ( $p = 0.052$  and  $0.032$ , respectively), whereas the coefficients on  $FOLLOW_{semi}$  and  $FOLLOW$  are not significantly different from zero. As for control variables, we find that operating cash flows ( $CFO$ ) are significantly and negatively associated with discretionary accruals.

In summary, our inference on the relationship between audit quality and the joint auditor-client switch based on audit adjustment analysis does not alter with the use of discretionary accruals as an alternative measure of audit quality.

[INSERT TABLE 4 HERE]

[INSERT TABLE 5 HERE]

## **6. CONCLUSION**

This study investigates the impairment of audit quality in a scenario where the client voluntarily follows an audit partner to a new audit firm when the partner leaves the former audit firm and joins the new firm (a joint auditor-client switch scenario). We hypothesize that, as an increased economic bonding often develops between the turnover auditors and the follower clients, the turnover audit partners treat follower clients more favorably (by making less negative audit adjustment to pre-audit earnings and allowing clients to report a higher level of discretionary accruals) than they treat other clients

around the joint auditor-client switches. Using data from China where turnover audit partners and follower clients are identifiable, we find evidence that supports our hypotheses under the condition that both of the signing auditors for the follower client switch to the same successor firm (or come from the same predecessor firm). Overall, our evidence is consistent with the widespread concern that audit quality is lower when the auditor-client economic bonding arises. We also find that a second non-turnover auditor who has different incentive structures from that of the turnover auditor for the follower client can help deter the turnover auditor's incentive to compromise independence, which has implications for audit firm quality control policies.

A caveat is noted that our results may not be readily generalizable to the client following behavior in the U.S. as documented by Whisenant (2003) as there are many cross-country institutional differences. Nonetheless, our study helps further understand audit quality difference at a micro level (i.e., partner-level) and the fundamental reasons, i.e., the increased auditor-client economic bonding, behind any impairment on audit quality.

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## APPENDIX

### Proof of Observation 1

As shown in the text,  $q_2^* = \frac{l - \frac{2}{3}\sqrt{w_3 k}}{2k}$ , which is smaller than  $q_0^* = \frac{l}{2k}$ , as  $w_3$  and  $k$  are positive.

Note that

$$\begin{aligned} & \frac{\partial[z(2q_0^* - q_1 - q_2^*) - x][w_2 + w_3 + f - l(1 - q_1) - kq_1^2 + f - l(1 - q_2^*) - kq_2^*]}{\partial q_1} \Big|_{q_1 = q_0^*} \\ &= -\frac{1}{3}z(3w_2 + 2w_3) < 0. \end{aligned}$$

Hence,  $q_1^* < q_0^*$ . ■

### Proof of Observation 2

We have derived  $q_1^*$  and  $q_2^*$  in the text. It is easy to see that they are equal when  $w_2 = w_3$  and  $x = 0$ . ■

### Proof of Observation 3

(a) As  $w_2 > w_3$ , we let  $w_3 = w_2 - y$ , where  $y$  is a positive constant. We have

$$\begin{aligned} & \frac{\partial[z(2q_0^* - q_1 - q_2^*) - x][w_2 + w_3 + f - l(1 - q_1) - kq_1^2 + f - l(1 - q_2^*) - kq_2^*]}{\partial q_1} \Big|_{q_1 = q_2^*, w_3 = w_2 - y} \\ &= -zy - \frac{2}{3}x\sqrt{3(w_2 - y)k} < 0. \end{aligned}$$

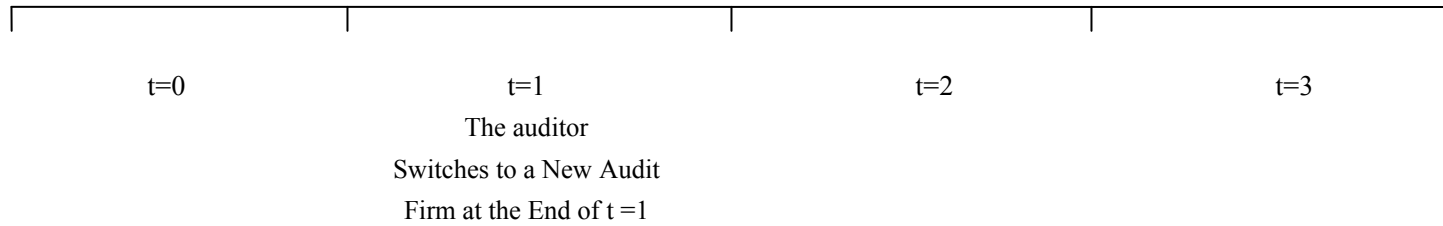
Hence,  $q_1^* < q_2^*$ .

(b) When  $w_2 = w_3$  and  $x > 0$ , then we have

$$\begin{aligned} & \frac{\partial[z(2q_0^* - q_1 - q_2^*) - x][w_2 + w_3 + f - l(1 - q_1) - kq_1^2 + f - l(1 - q_2^*) - kq_2^*]}{\partial q_1} \Big|_{q_1 = q_2^*, w_2 = w_3} \\ &= -\frac{2}{3}x\sqrt{w_2 k} < 0. \end{aligned}$$

Hence,  $q_1^* < q_2^*$ . ■

**Figure 1**  
**Timeline of the Game**



**TABLE 1**  
**Turnover Audit Partners' Client Portfolio and Sample Composition**

Event year	Column A Complete client portfolio			Column B Sample for audit adjustment analysis			Column C Sample for discretionary accrual analysis		
	Follower clients	Non-follower clients	Total	Follower clients	Non-follower clients	Total	Follower clients	Non-follower clients	Total
<i><b>Pre-turnover</b></i>									
<-5	18	46	64	0	0	0	7	11	18
-5	17	41	58	0	0	0	14	18	32
-4	21	63	84	5	10	15	15	22	37
-3	37	74	111	17	19	36	22	32	54
-2	47	84	131	23	17	40	38	49	87
-1	<u>58</u>	<u>48</u>	<u>106</u>	<u>27</u>	<u>8</u>	<u>35</u>	<u>49</u>	<u>38</u>	<u>87</u>
Subtotal	<u>198</u>	<u>356</u>	<u>554</u>	<u>72</u>	<u>45</u>	<u>126</u>	<u>145</u>	<u>170</u>	<u>315</u>
<i><b>Post-turnover</b></i>									
1	56	14	70	34	7	41	51	12	63
2	48	43	91	32	16	48	40	22	62
3	38	52	90	28	28	56	33	40	73
4	22	50	72	16	29	45	19	38	57
5	15	43	58	10	30	40	10	33	43
>5	<u>6</u>	<u>52</u>	<u>58</u>	<u>5</u>	<u>42</u>	<u>47</u>	<u>5</u>	<u>43</u>	<u>48</u>
Subtotal	<u>185</u>	<u>254</u>	<u>439</u>	<u>125</u>	<u>152</u>	<u>277</u>	<u>158</u>	<u>188</u>	<u>346</u>

For Column A (the complete client portfolio), we include all client-year observations for which the turnover audit partners have ever signed their names on the audit reports during 1995 to 2005.

For Column B (the sample used in the audit adjustments analysis), we include those firm-year observations for which audit adjustment data are available and the pre-audit earnings are positive.

For Column C (the sample used in the discretionary accruals analysis), we include those firm-year observations for which data are available for the calculation of discretionary accruals and the pre-audit earnings are positive.

**TABLE 2**  
**Pre-turnover analysis: Multivariate audit adjustments regression**

**Panel A: Description of pre-turnover sample**

<i>AUDADJ</i>	Number of observations	Mean	Median
(1) <i>FOLLOW</i> =1	72	-0.0016	-0.0014
(2) <i>FOLLOW<sub>both</sub></i> =1	16	-0.0030	-0.0023
(3) <i>FOLLOW<sub>semi</sub></i> =1	56	-0.0012	-0.0013
(4) <i>FOLLOW</i> =0	54	-0.0103	-0.0013

**Panel B: Regression results**

	Column 1		Column 2	
Dep. Var. = <i>AUDADJ</i>	Coefficient	<i>p</i> -value	Coefficient	<i>p</i> -value
Test variables:				
<i>FOLLOW</i>	0.013	0.083		
<i>FOLLOW<sub>both</sub></i>			0.020	0.048
<i>FOLLOW<sub>semi</sub></i>			0.011	0.119
Control variables:				
<i>LTA</i>	0.004	0.410	0.005	0.311
<i>LEV</i>	-0.013	0.511	-0.014	0.480
<i>RECV</i>	-0.238	0.054	-0.237	0.055
<i>INV</i>	-0.016	0.548	-0.019	0.483
<i>BEFADJ</i>	-0.458	0.061	-0.482	0.056
<i>PREMOD</i>	-0.012	0.369	-0.012	0.350
<i>BIG4</i>	-0.004	0.513	-0.006	0.272
<i>AGE</i>	-0.002	0.231	-0.002	0.227
<i>year dummies</i>	Yes		Yes	
<i>industry dummies</i>	Yes		Yes	
Intercept	0.020	0.735	0.011	0.851
Model F-stat.	5.24		5.04	
( <i>p</i> -value)	(0.000)		(0.000)	
Adj. R <sup>2</sup>	0.416		0.415	
Max VIF	1.83		1.87	
n	126		126	

All *p*-values are based on two-tailed tests.

The standard errors are adjusted for the effects of serial correlations by clustering by each company.

A sample of 126 observations is used for which audit adjustment data are available and pre-audit earnings are positive.

Variable definitions:

$$AUDADJ = \text{audit adjustment to pre-audit earnings} = (\text{post-audit earnings} - \text{pre-audit earnings}) / \text{total assets}.$$

**TABLE 2 (Continued)**

<i>FOLLOW</i>	=	an indicator variable coded 1 for client-year observations of an <i>ex post</i> follower client, 0 otherwise.
<i>FOLLOW<sub>both</sub></i>	=	an indicator variable coded 1 for client-year observations of an <i>ex post</i> follower client for which both of the two signing auditors later switch to the same successor audit firm, 0 otherwise.
<i>FOLLOW<sub>semi</sub></i>	=	an indicator variable coded 1 for client-year observations of an <i>ex post</i> follower client for which only one of the two signing auditors later switches to the successor audit firm, 0 otherwise.
<i>LTA</i>	=	the natural logarithm of total assets.
<i>LEV</i>	=	total liabilities to total assets ratio.
<i>RECV</i>	=	receivables to total assets ratio.
<i>INV</i>	=	inventory to total assets ratio.
<i>BEFADJ</i>	=	pre-audit earnings / total assets.
<i>PREMOD</i>	=	an indicator variable coded 1 if the client received a modified audit opinion in prior year, 0 otherwise.
<i>BIG4</i>	=	an indicator variable coded 1 if the audit firm is one of the Big 4 auditors, 0 otherwise.
<i>AGE</i>	=	the number of years since the initial public offering (IPO).
<i>year dummies</i>	=	indicator variables for fiscal years covered in the pre-turnover analysis.
<i>industry dummies</i>	=	indicator variables for 12 broad industries (financial sector excluded) based on the first digit of the CSRC industry classification; the manufacturing industry (with the first digit “C”) is used as the benchmark.

**TABLE 3**  
**Post-turnover analysis: Multivariate audit adjustments regression**

**Panel A: Description of post-turnover sample**

<i>AUDADJ</i>	Number of observations	Mean	Median
(1) <i>FOLLOW</i> =1	125	-0.0061	-0.0008
(2) <i>FOLLOW<sub>both</sub></i> =1	67	-0.0022	-0.0016
(3) <i>FOLLOW<sub>semi</sub></i> =1	58	-0.0105	-0.0008
(4) <i>FOLLOW</i> =0	152	-0.0092	-0.0024

**Panel B: Regression results**

	Column 1		Column 2	
Dep. Var. = <i>AUDADJ</i>	Coefficient	<i>p</i> -value	Coefficient	<i>p</i> -value
Test variables:				
<i>FOLLOW</i>	0.006	0.011		
<i>FOLLOW<sub>both</sub></i>			0.009	0.021
<i>FOLLOW<sub>semi</sub></i>			0.002	0.369
Control variables:				
<i>LTA</i>	0.002	0.432	0.002	0.438
<i>LEV</i>	0.003	0.507	0.003	0.513
<i>RECV</i>	-0.036	0.156	-0.038	0.145
<i>INV</i>	0.014	0.558	0.012	0.593
<i>BEFADJ</i>	-0.140	0.419	-0.144	0.406
<i>PREMOD</i>	-0.025	0.276	-0.024	0.285
<i>AGE</i>	0.000	0.893	0.000	0.780
<i>year dummies</i>	Yes		Yes	
<i>industry dummies</i>	Yes		Yes	
Intercept	-0.030	0.473	-0.028	0.491
Model F-stat.	1.52		1.48	
( <i>p</i> -value)	(0.068)		(0.076)	
Adj. R <sup>2</sup>	0.040		0.039	
Max VIF	2.84		2.85	
n	277		277	

All *p*-values are based on two-tailed tests.

The standard errors are adjusted for the effects of serial correlations by clustering by each company.

A sample of 277 observations is used for which audit adjustment data are available and pre-audit earnings are positive.

Variable definitions:

*AUDADJ* = audit adjustment to pre-audit earnings = (post-audit earnings – pre-audit earnings) / total assets.

**TABLE 3 (Continued)**

<i>FOLLOW</i>	=	an indicator variable coded 1 for client-year observations of a follower client, 0 otherwise.
<i>FOLLOW<sub>both</sub></i>	=	an indicator variable coded 1 for client-year observations of a follower client for which both of the two signing auditors are turnover auditors from the same predecessor audit firm, 0 otherwise.
<i>FOLLOW<sub>semi</sub></i>	=	an indicator variable coded 1 for client-year observations of a follower client for which only one of the two signing auditors is the turnover auditor from the predecessor audit firm, 0 otherwise.
<i>LTA</i>	=	the natural logarithm of total assets.
<i>LEV</i>	=	total liabilities to total assets ratio.
<i>RECV</i>	=	receivables to total assets ratio.
<i>INV</i>	=	inventory to total assets ratio.
<i>BEFADJ</i>	=	pre-audit earnings / total assets.
<i>PREMOD</i>	=	an indicator variable coded 1 if the client received a modified audit opinion in prior year, 0 otherwise.
<i>AGE</i>	=	the number of years since the initial public offering (IPO).
<i>year dummies</i>	=	indicator variables for fiscal years covered in the post-turnover analysis.
<i>industry dummies</i>	=	indicator variables for 12 broad industries (financial sector excluded) based on the first digit of the CSRC industry classification; the manufacturing industry (with the first digit “C”) is used as the benchmark.



**TABLE 4**  
**Pre-turnover analysis: Multivariate discretionary accruals regression**

**Panel A: Description of the pre-turnover sample**

<i>DA</i>	Number of observations	Mean	Median
(1) <i>FOLLOW</i> =1	145	-0.0121	-0.0090
(2) <i>FOLLOW</i> <sub>both</sub> =1	26	-0.0028	0.0002
(3) <i>FOLLOW</i> <sub>semi</sub> =1	119	-0.0141	-0.0118
(4) <i>FOLLOW</i> =0	170	0.0041	-0.0024

**Panel B: Regression results**

	<b>Column 1</b>		<b>Column 2</b>	
Dep. Var. = <i>DA</i>	<b>Coefficient</b>	<b><i>p</i>-value</b>	<b>Coefficient</b>	<b><i>p</i>-value</b>
Test variables:				
<i>FOLLOW</i>	0.009	0.146		
<i>FOLLOW</i> <sub>both</sub>			0.019	0.026
<i>FOLLOW</i> <sub>semi</sub>			0.007	0.222
Control variables:				
<i>LTA</i>	0.007	0.147	0.007	0.141
<i>CFO</i>	-1.089	0.000	-1.088	0.000
<i>BIG4</i>	-0.027	0.099	-0.030	0.060
<i>AGE</i>	-0.003	0.081	-0.003	0.088
<i>INDGROW</i>	0.089	0.260	0.085	0.277
<i>year dummies</i>	Yes		Yes	
<i>industry dummies</i>	Yes		Yes	
Intercept	-0.155	0.109	-0.152	0.118
Model F-stat.	21.81		20.86	
( <i>p</i> -value)	(0.000)		(0.000)	
Adj. R <sup>2</sup>	0.593		0.593	
Max VIF	3.97		3.99	
n	315		315	

All *p*-values are based on two-tailed tests.

The standard errors are adjusted for the effects of serial correlations by clustering by each company.

A sample of 315 observations is used for which there are sufficient data to compute discretionary accruals and pre-audit earnings are positive.

Variable definition:

*DA* = performance adjusted modified-Jones discretionary accruals.

*FOLLOW* = an indicator variable coded 1 for client-year observations of an *ex post* follower client, 0 otherwise.

**TABLE 4 (Continued)**

<i>FOLLOW<sub>both</sub></i>	=	an indicator variable coded 1 for client-year observations of an <i>ex post</i> follower client for which both of the two signing auditors later switch to the same successor audit firm, 0 otherwise.
<i>FOLLOW<sub>semi</sub></i>	=	an indicator variable coded 1 for client-year observations of an <i>ex post</i> follower client for which only one of the two signing auditors later switches to the successor audit firm, 0 otherwise.
<i>LTA</i>	=	the natural logarithm of total assets.
<i>CFO</i>	=	cash flow from operations to total assets ratio.
<i>BIG4</i>	=	an indicator variable coded 1 if the audit firm is one of the Big 4 auditors, 0 otherwise.
<i>AGE</i>	=	the number of years since the initial public offering (IPO).
<i>INDGROW</i>	=	(industry total sales in year t) / (industry total sales in year t-1).
<i>year dummies</i>	=	indicator variables for fiscal years covered in the pre-turnover analysis.
<i>industry dummies</i>	=	indicator variables for 12 broad industries (financial sector excluded) based on the first digit of the CSRC industry classification; the manufacturing industry (with the first digit “C”) is used as the benchmark.

**TABLE 5**  
**Post-turnover analysis: Multivariate discretionary accruals regression**

**Panel A: Description of the post-turnover sample**

<i>DA</i>	Number of observations	Mean	Median
(1) <i>FOLLOW</i> =1	158	0.0043	-0.0005
(2) <i>FOLLOW</i> <sub>both</sub> =1	82	0.0158	0.0151
(3) <i>FOLLOW</i> <sub>semi</sub> =1	76	-0.0081	-0.0128
(4) <i>FOLLOW</i> =0	188	-0.0105	-0.0076

**Panel B: Regression results**

Dep. Var. = <i>DA</i>	Column 1		Column 2	
	Coefficient	<i>p</i> -value	Coefficient	<i>p</i> -value
Test variables:				
<i>FOLLOW</i>	0.010	0.097		
<i>FOLLOW</i> <sub>both</sub>			0.019	0.016
<i>FOLLOW</i> <sub>semi</sub>			0.002	0.421
Control variables:				
<i>LTA</i>	-0.001	0.902	0.000	0.929
<i>CFO</i>	-0.790	0.000	-0.787	0.000
<i>BIG4</i>	-0.021	0.495	-0.020	0.507
<i>AGE</i>	-0.001	0.319	-0.001	0.252
<i>INDGROW</i>	-0.026	0.606	-0.024	0.625
<i>year dummies</i>	Yes		Yes	
<i>industry dummies</i>	Yes		Yes	
Intercept	0.049	0.505	0.045	0.537
Model F-stat.	16.15		15.68	
( <i>p</i> -value)	(0.000)		(0.000)	
Adj. R <sup>2</sup>	0.503		0.505	
Max VIF	8.72		8.72	
n	346		346	

All *p*-values are based on two-tailed tests.

The standard errors are adjusted for the effects of serial correlations by clustering by each company.

A sample of 346 observations is used for which there are sufficient data to compute discretionary accruals and pre-audit earnings are positive.

Variable definitions:

- DA* = performance adjusted modified-Jones discretionary accruals.
- FOLLOW* = an indicator variable coded 1 for client-year observations of a follower client, 0 otherwise.

**TABLE 5 (Continued)**

<i>FOLLOW<sub>both</sub></i>	=	an indicator variable coded 1 for client-year observations of a follower client for which both of the two signing auditors are turnover auditors from the same predecessor audit firm, 0 otherwise.
<i>FOLLOW<sub>semi</sub></i>	=	an indicator variable coded 1 for client-year observations of a follower client for which only one of the two signing auditors is the turnover auditor from the predecessor audit firm, 0 otherwise.
<i>LTA</i>	=	the natural logarithm of total assets.
<i>CFO</i>	=	cash flow from operations to total assets ratio.
<i>BIG4</i>	=	an indicator variable coded 1 if the audit firm is one of the Big 4 auditors, 0 otherwise.
<i>AGE</i>	=	the number of years since the initial public offering (IPO).
<i>INDGROW</i>	=	(industry total sales in year t) / (industry total sales in year t-1).
<i>year dummies</i>	=	indicator variables for fiscal years covered in the pre-turnover analysis.
<i>industry dummies</i>	=	indicator variables for 12 broad industries (financial sector excluded) based on the first digit of the CSRC industry classification; the manufacturing industry (with the first digit “C”) is used as the benchmark.